

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-4. (Cancelled).

5. (Currently Amended) A robotic tape applicator comprising:

(d) computer means which includes programmed data respecting the shape of the work piece and the proposed path of the tape to be adhered to the work piece;

(e) tape applicator means under the control of the computer means to apply the tape to the work piece along said path; and

(f) means to hold a work piece in registration with the tape applicator means.

6. (Previously Presented) The robotic tape applicator of Claim 5, further comprising an activator applicator to apply an activator liquid along the predetermined path prior to application of the tape, the activator applicator includes an activator storage tank that stores the activator liquid, an application gun that is coupled to the activator storage tank to receive and apply the activator liquid along the predetermined path, and a back pressure relief system coupled to the application gun to circulate the activator liquid back to the activator storage tank.

7. (Currently Amended) The robotic tape applicator of Claim 5, wherein the tape applicator means comprises:

(a) a tape applicator head comprising a nose at one end;

(b) a cutting mechanism to cut the tape, the cutting mechanism is integrated within the nose; and

(c) a tape braking mechanism that can be applied against the tape to hold the tape stationary during cutting, the tape braking mechanism includes a spring-loaded lever to trap the tape.

8. (Currently Amended) A robotic tape applicator comprising:
- (a) a computer adapted to control a robotic arm according to a program;
 - (b) the robotic arm comprising:
 - (i) a roller;
a two-sided adhesive tape residing on the roller;
 - (ii) a guide to guide the tape to a tape applicator head for application to a work piece;
 - (iii) the tape applicator head comprising a nose capable of permitting reciprocal motion in a direction normal to the work piece; and
 - (iv) a cutting mechanism integral with the tape applicator head to cut the tape under the control of the computer, wherein the computer uses programmed data corresponding to the shape of the work piece and a proposed path of the two-sided adhesive tape to be adhered to the work piece.
9. (Previously Presented) The robotic tape applicator of Claim 8, further comprising a tensioning mechanism located between the roller and the nose and applied against the tape to maintain a uniform tension on the tape.
10. (Previously Presented) The robotic tape applicator of Claim 9, wherein the tensioning mechanism comprises a nip roller.
11. (Previously Presented) The robotic tape applicator of Claim 8, further comprising a braking mechanism arranged to releasably restrain movement of the tape.
12. (Previously Presented) The robotic tape applicator of Claim 11, wherein the braking mechanism comprises a spring-loaded lever to releasably trap the tape.
13. (Previously Presented) The robotic tape applicator of Claim 12, wherein the spring-loaded lever releases the tape under pneumatic pressure.

14. (Currently Amended) The robotic tape applicator of Claim 8, wherein projections located on either side of the nose and extending beyond the leading edge of the nose a distance less than the thickness of the tape ~~are~~ are in contact with the work piece while the tape is running between said projections to uniformly compress the tape during tape application.

15. (Previously Presented) The robotic tape applicator of Claim 8, wherein a hydraulically or pneumatically controlled piston in a compliance cylinder maintains a constant pressure on the tape applicator head.

16. (Previously Presented) The robotic tape applicator of Claim 8, wherein the cutting mechanism comprises a knife blade located within the perimeter of the tape applicator head when the cutting mechanism is not in operation.

17. (Original) The robotic tape applicator of Claim 16, further comprising a pneumatic or hydraulic blade control piston to control the knife blade operation.

18. (Previously Presented) The robotic tape applicator of Claim 16, further comprising a knife blade sensor to detect when the knife blade is fully retracted after the tape is cut and to signal the computer so that tape application can resume.

19. (Previously Presented) The robotic tape applicator of Claim 8, further comprising vacuum ports that provide sites of negative pressure against which the tape can be slideably held during application of tape to the work piece.

20. (Original) The robotic tape applicator of Claim 8, wherein the nose of the tape applicator head comprises a smooth radius, the centre point of which radius lies along a roll axis of the robotic arm.

21. (Previously Presented) The robotic tape applicator of Claim 5, wherein the tape is an adhesive tape.

22. (Previously Presented) The robotic tape applicator of claim 8, wherein the nose of the tape applicator head comprises a non-rotary radius, the centre point of which radius lies along a roll axis of the robotic arm.

23. (Previously Presented) The robotic tape applicator of claim 20, wherein the smooth radius is a non-rotary smooth radius.

24. (Previously Presented) The robotic tape applicator of claim 19, wherein the nose of the tape applicator head comprises a non-rotary radius, the centre point of which radius lies along a roll axis of the robotic arm; and the robotic tape applicator further comprises: vacuum ports that provide sites of negative pressure against which the tape can be slideably held to the non-rotary radius during application of tape to the work piece.

25. (Previously Presented) The robotic tape applicator of Claim 8, wherein the cutting mechanism comprises a knife blade located within the perimeter of the nose when the cutting mechanism is not in operation.

26. (Previously Presented) The robotic tape applicator of Claim 8, wherein the nose of the tape applicator head comprises a non-rotary smooth radius, the centre point of which radius lies along a roll axis of the robotic arm; and

the cutting mechanism comprises a knife blade that is retracted from the non-rotary smooth radius of the nose when the cutting mechanism is not in operation.

27. (Previously Presented) The robotic tape applicator of Claim 11, wherein the tape applicator head further comprises a tensioning mechanism located adjacent to the braking mechanism to maintain a uniform tension on the tape.

28. (Previously Presented) The robotic tape applicator of Claim 8, further comprising:
a sensor to detect an amount of the tape remaining on the roller.

29. (Previously Presented) The robotic tape applicator of Claim 8, further comprising:
a linear bearing coupled to the tape applicator head to actuate the nose in reciprocal
motion in the direction normal to the work piece.

30. (Previously Presented) The robotic tape applicator of Claim 29, further comprising:
a hydraulically or pneumatically controlled piston in a compliance cylinder capable of
maintaining a constant pressure on the tape applicator head; and
wherein the linear bearing is arranged between the compliance cylinder and the tape
applicator head.

31. (Canceled).

32. (New) The robotic tape applicator of Claim 5 further comprising an additional work
piece with the tape fastening the work piece and the additional work piece.

33. (New) The robotic tape applicator of Claim 32 wherein the work piece and the
additional work piece are parts of a vehicle.

34. (New) The robotic tape applicator of Claim 5 wherein the proposed path includes at
least one curved section.

35 (New) The robotic tape applicator of Claim 8 further comprising an additional work
piece with the tape fastening the work piece and the additional work piece.

36. (New) The robotic tape applicator of Claim 34 wherein the work piece and the additional work piece are parts of a vehicle.

37. (New) The robotic tape applicator of Claim 8 wherein the proposed path includes at least one curved section.